

1 on a Substrate", naming Klaus F. Schuegraf as inventor, and which is
2 now U.S. Patent No. 5,849,644 the disclosure of which is
3 incorporated by reference.--

4
5 In the Claims

6 Cancel claims 1-38 without prejudice.

7
8 New Claims

9 Add new claims 39-48 as follows:

10
11 39. A semiconductor processing method of depositing SiO₂ on
12 a substrate within a chemical vapor deposition reactor comprising feeding
13 at least one of H₂O and H₂O₂ into the reactor while feeding an
14 organic silicon precursor, wherein the at least one of H₂O and H₂O₂
15 is fed into the reactor separately from the organic silicon precursor, and
16 under conditions which are effective to reduce the decomposition rate
17 of the organic silicon precursor.

18
19 40. The semiconductor processing method of claim 39, wherein
20 the at least one of H₂O and H₂O₂ comprises less than about 50% by
21 volume of material injected into the reactor.
22
23

1 41. The semiconductor processing method of claim 40, wherein
2 the at least one of H_2O and H_2O_2 comprises between about 5% to
3 15% by volume of material injected into the reactor.

4
5 42. The semiconductor processing method of claim 40, wherein
6 the at least one of H_2O and H_2O_2 comprises less than about 5% by
7 volume of material injected into the reactor.

8
9 43. A semiconductor processing method of forming silicon dioxide
10 comprising feeding at least one of H_2O and H_2O_2 into a chemical vapor
11 deposition reactor with an organic silicon precursor under conditions
12 effective to decompose the organic silicon precursor, *at a reduced rate,*
13 and reduce formation of undesired reaction intermediates in the reactor
14 during the decomposition reaction, wherein the at least one of H_2O
15 and H_2O_2 is fed into the reactor separately from the organic silicon
16 precursor, said organic silicon precursor being the only silicon containing
17 precursor which is fed into the reactor to form said silicon dioxide.

18
19 44. The semiconductor processing method of claim 43, wherein
20 the organic silicon precursor is selected from the group consisting of:
21 ~~silane~~ tetraethoxysilane (TEOS), diethylsilane (DES), tetramethylcyclo-
22 tetrasiloxane (TMCTS), fluorotriethoxysilane (FTES), and
23 fluorotrialkoxysilane (FTAS).

1 45. The semiconductor processing method of claim 43, wherein
2 the chemical vapor deposition reactor is a hot wall reactor.

3
4 46. The semiconductor processing method of claim 43, wherein
5 the chemical vapor deposition reactor is a cold ~~hot~~ ^{wall} reactor.

6
7 47. A semiconductor processing method of chemical vapor
8 depositing SiO₂ on a substrate comprising:

9 placing a substrate within a chemical vapor deposition reactor;

10 feeding an organic silicon precursor into the chemical vapor
11 deposition reactor having the substrate positioned therein under
12 conditions effective to decompose the precursor into SiO₂ which deposits
13 on the substrate and into a gaseous oxide of hydrogen; and

14 feeding an additional quantity of the gaseous oxide of hydrogen
15 into the reactor while feeding the organic silicon precursor into the
16 reactor, wherein the organic silicon precursor and the additional quantity
17 of the gaseous oxide of hydrogen are fed into the reactor from separate
18 feed streams and under conditions which are effective to reduce the
19 decomposition rate of the organic silicon precursor into the SiO₂.

48. A semiconductor processing method of chemical vapor depositing SiO_2 on a substrate comprising:

placing a substrate within a hot wall low pressure chemical vapor deposition reactor;

feeding an organic silicon precursor into the hot wall chemical vapor deposition reactor having the substrate positioned therein under conditions effective to decompose the precursor into SiO_2 which deposits on the substrate and into a gaseous oxide of hydrogen; and

feeding an additional quantity of the gaseous oxide of hydrogen into the hot wall low pressure chemical vapor deposition reactor while feeding the organic silicon precursor into the reactor, wherein the organic silicon precursor and the additional quantity of the gaseous oxide of hydrogen are fed into the reactor from separate feed streams.